

Notice of Allowability

Application No.

09/761,375

Examiner

Jurie Yun

Applicant(s)

WILLIAMS, TERRY N.

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/14/03.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 27 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has **THREE MONTHS FROM THE "MAILING DATE"** of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH or DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

DETAILED ACTION

1. The amendment and drawing filed 10/27/03 have been entered.

Terminal Disclaimer

2. The terminal disclaimer filed on 11/14/03 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of USPN 6,175,184 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

3. Claims 1-20 are allowed.
4. The following is an examiner's statement of reasons for allowance: Prior art fails to disclose a field emission device comprising an emitter tip formed from and integral with an emitter layer, wherein the emitter tip has a substantially rectilinear profile between the base and the apex, wherein the ratio of arc length to chord length is less than or equal to about 1.2:1, as claimed in claim 1. Prior art fails to disclose a field emission device comprising an emitter layer including an emitter tip that has a rectilinear profile between the base and the apex, wherein the ratio of the arc length to the chord length is less than or equal to about 1.2:1, as claimed in claim 5. Prior art fails to disclose a flat panel display device comprising an array of emitter tips each formed from an emitter layer disposed over the substrate, each of the emitter tips having a substantially rectilinear profile between the base and the apex, wherein the ratio of the arc length to the chord length is less than or equal to about 1.2:1, as claimed in claim 8. Prior art fails to disclose a field emission device comprising an emitter layer disposed

over the cathode conductive layer and comprising a base plane, and an emitter tip integral with and etched entirely from the emitter layer, the emitter tip comprising an apex, and a continuously concave exterior surface extending from the base plane to the apex, as claimed in claim 9. Prior art fails to disclose a field emission device comprising an emitter layer comprising a base plane, the emitter tip comprising an apex, and an exterior surface having a substantially paraboloid vertical profile that extends from the base plane to the apex, as claimed in claim 12. Prior art fails to disclose a field emission device comprising a single emitter layer disposed over the cathode conductive layer and comprising a base plane, and an emitter tip that is an integral portion of the single emitter layer, the emitter tip comprising an apex and an exterior surface having an ovoid profile that extends from the base plane to the apex, as claimed in claim 15. Prior art fails to disclose a field emission device comprising an emitter tip formed from an emitter layer, the emitter layer comprising a base plane, wherein the emitter tip is generally conical and has a substantially rectilinear profile between the base plane and the apex, as claimed in claim 18. Prior art fails to disclose a flat panel display device comprising an emitter layer disposed over the substrate, the emitter layer comprising a base plane, an array of monolithic emitter tips formed from the emitter layer and having an exterior surface having a profile with a continuous shape that extends from the base plane to the apex, as claimed in claim 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Yun whose telephone number is 703 308-3535. The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 703 308-4858. The fax phone number for the organization where this application or proceeding is assigned is 703 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0956.

 Julie Yun
December 1, 2003


EDWARD L. GLICK
SUPERVISORY PATENT EXAMINER